

# DCA CLASSES

## CLASS VIII – MATHEMATICS – CHAPTER 16

### PLAYING WITH NUMBERS

Name:

Date:

01. Write in generalised form: 25

- (a).  $10 \times 2 + 5$                       (b).  $10 \times 5 + 2$                       (c).  $10 \times 5 + 3$                       (d).  $10 \times 3 + 5$

02. Write in the usual form:  $10 \times 5 + 6$

- (a). 65                                      (b). 56                                      (c). 25                                      (d). 54

03. If the division  $N \div 5$  leaves a remainder of 3, what might be the ones digit of N?

- (a). 1                                      (b). Either 7 or 2                      (c). Either 3 or 8                      (d). 5

04. Solve:  $-36y^3 \div 9y^2$

- (a). -4                                      (b). 4y                                      (c). -y                                      (d). -4y

05. Write in generalised form: 73

- (a).  $10 \times 7 + 3$                       (b).  $10 \times 3 + 7$                       (c).  $10 \times 3 + 5$                       (d).  $10 \times 7 + 2$

06. Write in the usual form:  $100 \times 7 + 10 \times 1 + 8$

- (a). 781                                      (b). 718                                      (c). 871                                      (d). 178

07. If the division  $N \div 5$  leaves a remainder of 1, what might be the one's digit of N?

- (a). 1                                      (b). Either 7 or 2                      (c). 6                                      (d). 5

08. Write in generalised form: 85

- (a).  $10 \times 8 + 5$                       (b).  $10 \times 5 + 8$                       (c).  $10 \times 5 + 3$                       (d).  $10 \times 3 + 5$

09. Write in the usual form:  $100 \times a + 10 \times c + b$

- (a). bca                                      (b). acb                                      (c). abc                                      (d). bac

10. If the division  $N \div 5$  leaves a remainder of 4, what might be the one's digit of N?

- (a). 7                                      (b). Either 2 or 7                      (c). Either 4 or 9                      (d). 5

11. Write in generalised form: 128

- (a).  $100 \times 1 + 10 \times 2 + 8$                       (b).  $100 \times 1 + 10 \times 2 + 5$                       (c).  $100 \times 1 + 10 \times 8 + 2$                       (d).  $100 \times 2 + 10 \times 1 + 8$

12. Write in the usual form:  $100 \times 7 + 10 \times 5 + 6$

- (a). 765                                      (b). 756                                      (c). 658                                      (d). 786

13. If the division  $N \div 5$  leaves a remainder of 0, what might be the one's digit of N?

- (a). 2                                      (b). 4                                      (c). Either 5 or 0                      (d). 7

14. Write in generalised form: 425

- (a).  $100 \times 4 + 10 \times 2 + 5$                       (b).  $100 \times 4 + 10 \times 5 + 2$                       (c).  $100 \times 4 + 10 \times 8 + 5$                       (d).  $100 \times 5 + 10 \times 2 + 5$

15. Write in the usual form:  $10 \times 6 + 7$

- (a). 76                                      (b). 67                                      (c). 57                                      (d). 87

16. Factorise:  $a^2 + 8a + 16$

- (a).  $(a - 4)^2$                                       (b).  $(a + 5)^2$                                       (c).  $(a + 4)^2$                                       (d).  $(a - 3)^2$

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**Q01.** If the division  $N \div 2$  leaves a remainder of 1, what might be the one's digit of N?

**Q02.** Find the values of the letters in following:

$$\begin{array}{r} 2 A B \\ + A B 1 \\ \hline B 1 8 \end{array}$$

$$\begin{array}{r} 1 2 A \\ + 6 A B \\ \hline A 0 9 \end{array}$$

$$\begin{array}{r} A B \\ \times 3 \\ \hline C A B \end{array}$$

$$\begin{array}{r} 3 1 Q \\ + 1 Q 3 \\ \hline 5 0 1 \end{array}$$

$$\begin{array}{r} M N \\ \times 5 \\ \hline O M N \end{array}$$

$$\begin{array}{r} X \\ + X \\ + X \\ \hline B A \end{array}$$

$$\begin{array}{r} M N \\ \times 6 \\ \hline N N N \end{array}$$

$$\begin{array}{r} N M \\ \times N 3 \\ \hline 5 7 M \end{array}$$

**Q03.** Check what the result would have been if chose the numbers shown below.

(a). 27

(b). 39

**Q04.** Check the divisibility of 21436587 by 9.

**Q05.** If the division  $N \div 2$  leaves no remainder (i.e., zero remainder), what might be the one's digit of N?

**Q06.** Check the divisibility of 152875 by 9.

**Q07.** Suppose that the division  $N \div 5$  leaves a remainder of 4, and the division  $N \div 2$  leaves a remainder of 1. What must be the one's digit of N?

**Q08.** Check the divisibility of 2146587 by 3.

**Q09.** If  $21y5$  is a multiple of 9, where  $y$  is a digit, what is the value of  $y$ ?

**Q10.** Check the divisibility of 15287 by 3.

**Q11.** If  $31z5$  is a multiple of 6, where  $z$  is a digit, what is the value of  $z$ ?

**Q12.** Check the divisibility of 616 by 3.

**Q13.**  $1x35$  is divisible by 9 if  $x =$  \_\_\_\_\_.

**Q14.** A four-digit number  $abcd$  is divisible by 11, if  $d + b =$  \_\_\_\_\_ or \_\_\_\_\_

**Q15.** A number is divisible by 11 if the differences between the sum of digits at its odd places and that of digits at the even places is either 0 or divisible by \_\_\_\_\_.

**Q16.** If a 3-digit number  $abc$  is divisible by 11, then \_\_\_\_\_ is either 0 or multiple of 11.

**Q17.** If  $A \times 3 = 1A$ , then  $A =$  \_\_\_\_\_.

**Q18.** If  $B \times B = AB$ , then either  $A = 2, B = 5$  or  $A =$  \_\_\_\_\_,  $B =$  \_\_\_\_\_.

**Q19.** If the digit 1 is placed after a 2-digit number whose tens is  $t$  and ones digit is  $u$ , the new number is \_\_\_\_\_.

**Q20.**  $212 \times 5$  is a multiple of 3 and 11. Find the value of  $x$ .

**Q21.** Find the value of  $k$  where  $31k 2$  is divisible by 6.

**Q22.**  $1y3y6$  is divisible by 11. Find the value of  $y$ .

**Q23.**  $756 \times x$  is a multiple of 11, find the value of  $x$ .

**Q24.** A three-digit number  $2 a 3$  is added to the number 326 to give a three-digit number  $5b9$  which is divisible by 9. Find the value of  $b - a$ .

**Q25.** If 148101B095 is divisible by 33, find the value of B.

**Q26.** If 123123A4M18 is divisible by 11, find the value of A.

**Q27.** If  $56x32y$  is divisible by 18, find the least value of  $y$ .

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**Q28.** Let  $E = 3$ ,  $B = 7$  and  $A = 4$ . Find the other digits in the sum

$$\begin{array}{r} \text{B A S E} \\ + \text{B A L L} \\ \hline \text{G A M E S} \end{array}$$

**Q29.** Let  $D = 3$ ,  $L = 7$  and  $A = 8$ . Find the other digits in the sum

$$\begin{array}{r} \text{M A D} \\ + \text{A S} \\ + \text{A} \\ \hline \text{B U L L} \end{array}$$

**Q30.** Find the value of the letters in each of the following:

(i)  $\begin{array}{r} \text{P Q} \\ \times 6 \\ \hline \text{Q Q Q} \end{array}$

(ii)  $\begin{array}{r} 2 \text{ L M} \\ + \text{L M 1} \\ \hline \end{array}$

